



# Minnesota Plant Press

The Minnesota Native Plant Society Newsletter

Volume 26 Number 1

Fall 2006

## Monthly meetings

Thompson Park Center/Dakota Lodge  
Thompson County Park  
360 Butler Ave. E., West St. Paul, MN 55118  
651-552-7559 (kitchen)

6:00 p.m. — Social period  
7 – 9 p.m. — Program, society business

## Programs

The MN NPS meets the first Thursday in October, November, December, February, March, April, May, and June. Check the website for more program information.

**Nov. 2: “The Importance of Native Plants in the Streamside Environment,”** by Brian Nerbonne, stream habitat specialist, MN DNR Central Region Fisheries. **Annual seed exchange.**

**Dec. 7: “Growth Pressures on Sensitive Natural Areas in DNR’s Central Region,”** by Sharon Pfeifer, regional planner, DNR Central Region.

**Feb. 1: “Recent Highlights in the Minnesota County Biological Survey,”** by Carmen Converse, Minnesota County Biological Survey supervisor, DNR.

## Seed exchange

Bring native seeds you have collected to the November meeting. They must be in labeled envelopes — no bulk piles. Donors will be first in line to choose seeds.

## MN NPS website

[www.mnnps.org](http://www.mnnps.org)

e-mail: [contact@mnnps.org](mailto:contact@mnnps.org)

## MN NPS Listserve

Send a message that includes the word “subscribe” or “unsubscribe” and your name in the body of the message to: [mn-natpl-request@stolaf.edu](mailto:mn-natpl-request@stolaf.edu)

## New location for meetings

Because the National Wildlife Refuge Visitor Center is being closed for remodeling, MN NPS meetings for the upcoming year will be in a new location. We will meet at the Dakota Lodge in Dakota County’s Thompson Park in West St. Paul. Meeting dates and times will not change.

Thompson County Park and Dakota Lodge are at 360 Butler Ave. East, West St. Paul. Take Hwy. 52 to Butler Ave. East. Go west on Butler 0.2 miles to Stassen Lane, the park entrance road. Go south on Stassen Lane to the Dakota Lodge. For additional information about the park, a map, and driving directions, go to [www.co.dakota.mn.us/Parks](http://www.co.dakota.mn.us/Parks) and click on Dakota Lodge.

## Several methods help control invasive cattails

by Cindy Kottschade, a graduate student at Minnesota State University studying mechanisms for invasion of *T. angustifolia*. This is an abstract of her talk at the June 1 MN NPS meeting.

A substantial portion of wetlands in North America have been impacted by disturbances, changes in hydrodynamics and nutrient cycling, and they are further impacted by the presence of invasive species, including *Typha* spp. (cattails).

There are actually three taxa of *Typha* found in Minnesota — *Typha latifolia* (broad-leaved cattail), *Typha angustifolia* (narrow-leaved cattail) and *Typha x glauca* (hybrid cattail). Ecologically, these three plants are very different.

*T. latifolia* is actually native to Minnesota and is a co-dominant wetland plant associated with greater levels of diversity. *T. angustifolia*, a non-native cattail, invades wetland areas and forms monospecific stands which reduce plant diversity. Finally, *T. x glauca*, a hybrid between *T. angustifolia* and *T. latifolia*, also form monospecific stands and may actually be more invasive than *T. angustifolia*.

In order to reduce the presence of invasive cattails, we need to

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# Conservation is a priority

*by Scott Milburn, Minnesota Native Plant Society president*

In this political campaign season, we have been inundated with promises of what one candidate (national and local) or the next will do for you. It seems that these campaigns saturate the public with narrowly focused campaign messages, sometimes irrelevant to what we truly care about. The issue of conservation is often lost in the shuffle during these political campaigns, but what does that mean?

The assumption is that people do care about conservation, but the issue itself is not one that drives people to vote. In analyzing this further, maybe it is due to the lack of a clear and concise message that enables the general public to rally behind such a cause. Environmental issues are picking up steam lately, mainly climate change. This has been due to intense media coverage, which has even included the release of a motion picture documentary. Yet with all of this attention, the environment was still termed a non-issue in a recent Zogby poll (September 12-14, 2006) for the upcoming November elections.

The Minnesota Native Plant Society has an obligation to make this an issue and to inform the public about conservation. In an effort to prioritize our efforts, the national level is not where we need to begin, but rather focusing locally. Our bylaws describe two committees through which we can achieve this — the Conservation Committee and the Education and Outreach Committee. They provide our membership a great opportunity to get involved with the Society.

The role of the Conservation Committee is to serve in the capacity of providing information to the membership pertaining to plant conservation, and the role of the Education and Outreach Committee is to spread the word about the Society to the general public. At this time, we are looking for members of the Society who would like to get involved with these committees. In doing so, those involved will be helping to bring attention to the subject of conservation on a local level. With this, we will be achieving the objectives of the Society. If you have an interest, please contact me at [president@mnnps.org](mailto:president@mnnps.org)

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## Welcome, new board members

Sean Jergens and Beth Nixon have accepted appointments to the MN NPS board.

**Sean Jergens** has been a Society member since he was a student at the University of Minnesota. He earned a master's degree in landscape architecture and now works in the landscape architecture studio at SRF Consulting Group. Before that, he worked at a small firm that specialized in ecological design and restoration. His family frequently camped in regional and national parks, where Sean learned to appreciate the natural world. Courses he took at the university sparked a strong interest in Minnesota's native flora and ecosystems. He enjoys taking his six-month old son on nature walks and gardening with native plants.

**Beth Nixon** has been a follower of the Society since she was a graduate student in the University of Minnesota Botany Department. She and her husband, U of M Professor Bud Markhart, have diversified a wooded area in White Bear Lake with native plants and seeds. Beth is an executive board member of the North Central Chapter of the Society of Wetland Scientists and has more than 20 years of experience as an ecologist and wetland scientist. She is employed by Emmons and Olivier Resources.

## MN NPS Board of Directors

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**Minnesota Plant Press editor:**  
**Gerry Drewry**, phone, 651-463-8006; [plantpress@mnnps.org](mailto:plantpress@mnnps.org)

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## Conference on aspen parklands is Oct. 23

"Ecology of the Aspen Parkland," a day-and-a-half conference on "Life at the Edge," will be held Oct. 23 and 24 at the University of Minnesota, Crookston. Jim Brandenburg will give a special presentation. Registration, including meals, is \$35 for students, \$65 for all others. A brochure with program and registration details is on the university website, [www.crk.umn.edu](http://www.crk.umn.edu)

# *Psathyrella rhodospora* is a little brown Minnesota mushroom

## Plant Lore

by David McLaughlin and Maj Padamsee. This is an abstract of David McLaughlin's "Fungus of the Month" presentation at the March 2 meeting.

Minnesota is home to several mushrooms known nowhere else on Earth. One of these is *Psathyrella rhodospora*, first collected in Minnesota in 1971. Psathyrellas are a group of little brown mushrooms or LBMs often overlooked by collectors. They get their name from the Greek word "psathyros," meaning fragile, because the caps of many species break readily when picked. They are actually a quite diverse group and have microscopic characters that can be used to identify them. *Psathyrella rhodospora* is a red-spored species, from which it gets its species name. It was collected first near Nerstrand Woods State Park and brought to Margaret Weaver, a keen student of mushrooms. She described and preserved it and sent it to Alexander Smith at the University of Minnesota, who gave it its scientific name.

Most psathyrellas have brown spore prints, but a few have red ones. Spore print colors are used to identify mushrooms. They are easily made by setting the cap on a piece of white paper for 1 to 12 hours under a cover to prevent drying. *Psathyrella rhodospora* is readily distinguished from the other red-spored species by its cap, which is not fragile but cracks on drying, by its larger size, fruiting bodies that grow in clumps, and by some microscopic features, including its spore size and some thick-walled sterile cells (cystidia) on the gills.

It was originally reported on a *Tilia* stump. We have found it recently in Hennepin and Ramsey counties on a cottonwood stump and at the base of a living poplar tree. We assume that it is involved in wood decay, i.e., in recycling dead wood, as this is the presumed role of most psathyrellas. We also know now that it can fruit from June until October or early November when sufficient rain is available.

One of the surprises was finding it on the University of Minnesota campus, which highlights how little attention is paid to many mushrooms, as we assume that it has been growing near or on campus for many years. But it also points out how little we know about mushrooms in Minnesota in general, as they require some effort to study.

We owe a great debt to Margaret Weaver, who was present at the March meeting when this talk was presented, for her contributions to the knowledge of Minnesota mushrooms. Her collections are an important part of the documentation for Minnesota fungi and are housed in the University Herbarium, Bell Museum of Natural History. Pictures and records of this mushroom and other rare as well as more common species can be seen on the herbarium website: [www.fungi.umn.edu](http://www.fungi.umn.edu).



Photo copyright Bell Museum

### SNA volunteer projects

The fall SNA volunteer schedule includes four sites for seed collection and/or brush removal. They are: **Lost Valley Prairie**, Washington County, Oct. 28 and Nov. 18; **St. Croix Savanna**, near Bayport, Nov. 11 and Dec. 2; **Wolsfeld Woods**, near Long Lake, Oct. 21; and **Zumbro Falls Woods**, near Zumbro Falls, Dec. 9. Contact Christine Drassal at [Christine.drassal@dnr.state.mn.us](mailto:Christine.drassal@dnr.state.mn.us)

by Thor Kommedahl

### What is hog-peanut?

Hog-peanut is *Amphicarpaea bracteata* in the pea family.

### What do its names mean?

*Amphicarpaea* refers to its two kinds of fruits, one above and one below ground. *Bracteata* refers to bracts that subtend the pedicel. Hog-peanut is "much relished by hogs." Lewis and Clark in their journal (10/11/1804) wrote that while camped in South Dakota, they ate the plant that the "frontiersmen called the hog-peanut."

### What do plants look like?

It is an annual, twining vine with ovate leaflets in threes, and two kinds of flowers: pale-lilac or white flowers in upper parts of plants, but flowers without petals at the base of the plant. Upper pods contain three to four seeds, and basal flowers produce pods underground containing single seeds.

### Where do plants grow?

Hog-peanut is a native plant growing in moist woodlands throughout Minnesota.

### Are the "peanuts" edible?

Underground seeds are edible raw or cooked (15-20 minutes and served with butter). They can be harvested throughout winter. Upper seeds can be cooked and served like lentils. Hog-peanut was an important source of food for the American Indian, especially those living in the Missouri Valley. Indian women in fall and winter would rob nests of mice and other rodents who stored seeds; Dakota Indians would leave corn or other seeds in exchange in the nests.

### Are plants poisonous or medicinal?

They aren't poisonous, and American Indians made root infusions to treat diarrhea.

### Are there economic uses?

Not really. Some have grown hog-peanut as a ground cover in shady areas. Growing it as a crop is not practical because of low yield. Being a legume, it will fix nitrogen in soil.

Minnesota Native Plant Society  
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Bloomington, MN 55420

Fall 2006

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## Cattail control

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understand first why this plant is invasive. Many hypotheses have been proposed to explain the success of invasive cattails, including the hybridization, novel weapon or human disturbance hypotheses. The success of the hybrid cattail may be because it has the tolerance of *T. angustifolia* for deep water and the ability of *T. latifolia* to spread rapidly vegetatively.

The novel weapons hypothesis states that a non-native plant may disrupt the native community by the release of chemicals not previously present in the environment. The success of the non-native cattail *T. angustifolia* may be due to the possible presence of allelopathic chemicals released by roots.

Human disturbances, such as changes in hydrology or nutrient cycles, often alter an environment

over a short period of time, and native plants cannot adapt quickly enough to maintain their competitive advantage. Research has shown stabilization of the hydrology of a wetland and increased nutrient loading increases the presence of invasive cattails.

Invasive cattails can be managed through a variety of mechanisms, including biological, physical and chemical controls. Muskrats provide a natural and efficient biological control by creating openings in cattail stands for waterfowl to use.

Cattails can be physically controlled by discing or hand/mechanical cutting. The stems should be cut at the sediment surface in late summer or early fall and then submerged in water to prevent rhizomes from receiving oxygen. Cutting too early in the season can actually stimulate growth. Flooding can kill *T. latifolia* but may be ineffective for *T. angustifolia* and *T. x glauca*.

Finally, cattails can be controlled through chemicals such as glyphosate, a non-selective systemic herbicide. Glyphosate can be wiped onto plants with paint brushes or cotton gloves over PVC gloves. Also, since cattails have a waxy coating on their leaves, a surfactant should be used to increase the uptake of the herbicide. Please note — the herbicide should be for aquatic use.

In addition, management should also focus on preventing the establishment of cattails by educating professionals and the general public on the invasiveness of cattails.

*For more information, contact Cindy Kottschade at 612-868-2924 or [cindy.kottschade@mnsu.edu](mailto:cindy.kottschade@mnsu.edu).*

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## Correction

Joe Beattie wrote the article, "Hastings turns industrial park into prairie," that was in the summer issue. We apologize for the incorrect attribution.



# Minnesota Plant Press

The Minnesota Native Plant Society Newsletter

Volume 26 Number 2

Winter 2007

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## Programs

The MN NPS meets the first Thursday in October, November, December, February, March, April, May, and June. Check the website for more program information.

**Feb. 1: "Recent Highlights in the Minn. County Biological Survey,"** by Carmen Converse, County Biological Survey supervisor, DNR. **Plant-of-the-Month:** Bog adder's mouth orchid (*Malaxis paludosa*), Erika Rowe, DNR.

**Mar. 1: "Hot Topics Related to the Use of Native Plants for Landscaping and Restoration:** Endangered Species, Local Genetic Stock, and Restoring Plant Communities," by Hannah Texler, DNR regional plant ecologist. Panel discussion with nursery owners/operators and Dept. of Agriculture representative. **POM:** Louisiana Broomrape (*Orobanche ludoviciana*).

**April 5: "Conservation Challenges in Minn. Forests:** Climate Change, Invasive Species and Deer," by Dr. Lee Frelich, Dept. of Forestry Resources, Univ. of Minn. **Plant, Place of the Month:** Black Spruce and Seagull Lake, by Dr. Frelich.

**May 3: "Motorized Recreation:** Social, Ecological Consequences," by Matt Norton, Minn. Center for Environmental Advocacy. **POM:** *Carex garberi* (a sedge), by Scott Milburn..

**June 7: "Decorative Tree Harvest from Minnesota Spruce Bogs,"** by Mike Phillips, DNR Division of Forestry. **Annual Plant Sale.**

## Updated Endangered Species List will affect availability of plants

by Hannah Texler, Rich Baker, and Nancy Sather, Natural Heritage and Nongame Research Program, Minnesota DNR

**MN NPS members are invited to submit comments on new list.**

Minnesota's Endangered Species Statute (MS 84.0895) requires that the Department of Natural Resources (DNR) maintain a list of the state's endangered, threatened, and special concern species (hereafter referred to as the list). The list was created in 1984 and was last revised in 1996. The DNR's goal is to maintain a list that reflects our scientific knowledge of the status and conservation needs of Minnesota's plant and animal species.

During the past few years, staff within the DNR's Division of Ecological Services have developed a set of several hundred draft changes to the list in light of new research and survey results. These draft changes are the subject of administrative rule-making during 2007.

by Scott Milburn

**Symposium is March 31**  
Our annual symposium will be March 31 at the Bell Museum of Natural History. Join us as we learn about the Minnesota portion of the Prairie Coteau while exploring the past, present, and future of this unique landform. The roster for the symposium is just about set, with talks on the Prairie Coteau that include its geology, human history, plant communities, insect pollinators, rare plant species and conservation issues. The symposium brochure will be available in early February, but please continue to check our website for updates and programming notes.

In order to give the public an opportunity to comment on these draft changes early in the rule-making process, the DNR will accept comments between Jan. 2 and March 5, 2007. We

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# The Continuum of Conservation

by Scott A. Milburn, president

The Minnesota Native Plant Society begins 2007 marking an important milestone while heading into the year with great momentum. I first would like to remind our membership that Feb. 3 marks the 25th anniversary of the Society's first monthly meeting. While this is a great accomplishment, our mission is far from over.

In my past column, I brought up the issue of conservation, and I would like to continue with this message. Since the publication of the last newsletter, the Conservation Committee and the Education and Outreach Committee have both started to move forward under the direction and leadership of Beth Nixon and Sean Jergens. We are still looking for more volunteers from our membership to join these committees and add their ideas and energy.

As a society, we need to continually look for ways to not only engage ourselves but also a whole new generation. Conservation will continue to be a very important topic in Minnesota, and we have the opportunity to be major players. As the landscape continues to be developed, children will continue to be further and further removed from the natural world. We need to ensure that today's children are given the opportunity to experience the natural world. In doing so, we will be showing an entire generation the wonders of Minnesota's natural history.

The question is: how can we do this? One way is to support your local nature center either through volunteering efforts or by donation. A second and perhaps more intriguing opportunity is through the development of curriculum for all grade levels. This information could be available online for teachers throughout the state. This is an idea to think about this next year, and I hope you can share your thoughts. In closing, I hope everyone is as excited as I am about our great monthly programs, our great roster of speakers for the annual symposium, and the great lineup of field trips.

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## MN NPS website

[www.mnnps.org](http://www.mnnps.org)

**e-mail:** [contact@mnnps.org](mailto:contact@mnnps.org)

## MN NPS Listserve

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## Minnesota Native Plant Society's purpose

*(Abbreviated from the bylaws)*

This organization is exclusively organized and operated for educational and scientific purposes, including the following:

1. Conservation of all native plants.
2. Continuing education of all members in the plant sciences.
3. Education of the public regarding environmental protection of plant life.
4. Encouragement of research and publications on plants native to Minnesota.
5. Study of legislation on Minnesota flora, vegetation and ecosystems.
6. Preservation of special plants, plant communities and scientific and natural areas.
7. Cooperation in programs concerned with the ecology of natural resources and scenic features.
8. Fellowship with all persons interested in native plants through meetings, lectures, workshops and field trips.

# MN NPS Board of Directors

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## Deb Anderson, Jason Husveth receive state conservation awards

Deb Anderson (Fillmore Soil and Water Conservation District) and Jason Husveth (Anoka SWCD) each received their district's 2006 Outstanding Conservationist's Award at the Minnesota Association of Soil and Water Conservation Districts Convention Dec. 2. Deb is a former MN NPS board member; Jason is a current board member.

## Endangered species

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are requesting scientific information that will help us determine whether or not a species should be designated as endangered, threatened, or of special concern in Minnesota.

You may review and comment on the DNR's Draft Revisions to Minnesota's List of Endangered, Threatened, and Special Concern Species on the internet at [www.dnr.state.mn.us/ets/rulesrevision.html](http://www.dnr.state.mn.us/ets/rulesrevision.html)

Links to the current list, and to Minnesota's Endangered Species Statute and associated rules are also available at that site.

If you prefer to receive a paper copy of these materials, please request a copy from:

Richard J. Baker, Division of Ecological Services, Minnesota Department of Natural Resources, 500 Lafayette Rd., Box 25, St. Paul, MN 55155; phone: 651-259-5073; e-mail: [rich.baker@dnr.state.mn.us](mailto:rich.baker@dnr.state.mn.us)

### How the law affects the sale and purchase of native plants

Out of the 2,024 vascular plant species that occur in the state, 123 (six percent) are currently legally listed as endangered or threatened, and 133 are listed as of special concern. It is illegal to take, import, transport, or sell any portion of an endangered or threatened species without a special permit from the Minnesota DNR. From a practical standpoint, this means that it is illegal to use endangered or threatened plants as horticultural materials or in restorations.

This is a controversial law, and some natural resource managers and plant vendors disagree with its basic premise. In fact, many plant vendors sell Minnesota endangered and threatened species illegally, in many cases because they don't know about the law. This issue was addressed in detail at the 2000 MNPS annual symposium, but with the new list

## List to be discussed at March 1 meeting

**The draft revisions and other current topics related to using native plants for landscaping and restoration will be further explored at the Society's March 1 meeting. These topics include current views about using local genetic stock for native plantings and the importance of restoring ecologically appropriate native plant communities. Be sure to attend this meeting; there will be a panel discussion to present various views and give audience members the opportunity to comment. It promises to be a lively evening.**

coming out soon, it seems like a good time to address the issues again.

Here is a brief overview of the ecological reasons for regulating the planting, transplanting and sale of rare plants:

1. Most listed species are rare primarily because of habitat loss. Introductions and reintroductions do not address this root cause of endangerment, and they may lead to a false assumption by the general public that biodiversity loss can be addressed simply by moving species around.

2. Many listed plant species have been reduced to a small number of fragile populations that could be damaged by the introduction of genes from plants from a different geographic area. Ideally, we would understand the genetics of each species and use that understanding to determine whether or not introductions could be helpful or harmful to native populations. However, there is almost no information available about the genetic makeup and reproductive behavior of most listed species, so the law is applied uniformly in order to avoid potential damage.

3. Since many rare plants have very specific habitat requirements, it is

likely that attempts to introduce or reintroduce rare plants will not be successful. There is little documentation about successful techniques for the introduction of most rare species. So again, the law is applied uniformly in order to make it more easily understood.

4. Moving species around can obscure natural biogeographic patterns. This can cloud our understanding about what the plants really need in their natural environments.

5. The use of plants or rootstocks bearing soil from another site may bring invasive weed seeds or invertebrates into a site.

6. Collecting seeds from wild populations of rare species may significantly reduce the seeds available for reproduction in naturally occurring populations.

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## Society urges protection for Coldwater Spring site

At its Oct. 5, 2006, meeting, the MN NPS Board of Directors voted to urge protection of the Coldwater Spring site in Minneapolis. They signed a letter, "Comments on the Historic Coldwater Spring Site," which was sent to Acting Superintendent Steve Johnson, Mississippi National River and Recreation Area.

The letter begins:

"On behalf of The Minnesota Native Plant Society, the Board of Directors requests the above 27-acre property be designated a public outdoor museum under permanent protection of the National Park Service following the removal of buildings on the site. We also request this protection be accompanied by federal guarantees that this property will never be sold for private use, private development, or non-historic public use."

The letter then lists reasons why the site should be protected.

# Husveth makes plant presses for Hastings biology class

*by Bonnie St. James. Reprinted with permission from the Sept. 14, 2006, Hastings Star-Gazette.*

High School teacher Joe Beattie's biology classes are always hands-on and intensive. This year is going to be no exception. But this year, students have new tools — plant presses built by an ecologist who was in Hastings last week to teach the students how to use them.

Field biology students found themselves dressed in waders last Thursday and in water up to their knees. They were learning about collecting wetland plants from Jason Husveth, principal ecologist for Critical Connections Ecological Services, Inc. and past president of the Native Plant Society.

Beattie asked the Native Plant Society last year for help in getting plant presses so his students could collect, press and dry plants. Husveth did more than was asked. He took the project on himself and built seven presses, which he donated to Beattie's class and then came to show the students how to use them.

At 7 a.m. last Thursday morning, the students gathered with Beattie and Husveth in the parking lot at the Hastings Lock and Dam and walked to the berm between Lake Rebecca and the Mississippi River west of the lock and dam. They all put on waders and followed Husveth into a little piece of wetlands.

Husveth explained how rare plants could occur in very small communities or "pockets" like this one. He pointed out the native arrowroot and smartweed, and the invasive cattails and purple loosestrife. He showed them the tools he used — plastic bags and a serrated knife — that wouldn't cut anything probably but plants. Then he collected an arrowroot plant to show them how it is best done.



*One of donated plant presses*

"Collect as much of the plant as you can," he said. "Look at the smartweed. If you collected just the top, you wouldn't be able to see how tall the plant is."

He placed the plants in separate bags, and then had the students do some collecting. The students would also collect prairie plants at a piece of prairie on 3M grounds on Friday, and forest plants at Vermillion Falls Park on Monday.

After the plants were collected, the students climbed out of the water and out of the waders and watched Husveth prepare a plant for pressing. The arrowroot plants were long, so he folded them in thirds.

The presses Husveth built consist of an open frame made of lath, a piece of cardboard the same size (all cut to a standard size used by collectors), blotter paper to absorb the water, a layer of newspaper, the plant, more newspaper, a sheet of blotter paper, a layer of newspaper and the top frame.

Then the press is pulled together tightly to form a bundle, and a strap made of webbing is secured tightly around it, to release water.

## Collectors needed for Millennium Seed Bank Project

Betsy Allen, coordinator for the Millennium Seed Bank Project at the Chicago Botanic Garden, wants to hire botanists to collect seeds of native plants.

They are collecting seeds from 1,500 different native species in the Midwest for long-term conservation as part of the international Millennium Seed Bank Project (<http://www.rbgekew.org.uk/msbp/index.html>). These seeds are dried to a low moisture content, stored in an airtight container, and then frozen. The Royal Botanic Garden, Kew, thinks that the average lifespan of these stored seeds is 200 years. The seeds are used mostly for "what if" scenarios, but a portion can be used by qualified groups for restoration or research. For each species, they collect between 5,000 and 20,000 seeds from one population and take two herbarium specimens.

Allen hopes to collect seeds in Minnesota this year. "If we want to fulfill our requirement to Kew," she said, "we have to collect seed from 300 species in one year. Yikes! We have money to pay contract botanists to help me out with making these collections. Do you know any amateur botanists or poor, starving graduate students that earning money by seed collecting might be appealing?"

A species list is posted online at <http://cbgseedbank.org/targetspecies.html>. For additional information, contact: Betsy Allen, Millennium Seed Bank Project coordinator, 847-835-6957; [ballen@chicagobotanic.org](mailto:ballen@chicagobotanic.org); Chicago Botanic Garden, 1000 Lake Cook Road, Glencoe, IL 60022.

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### Use new mailing address

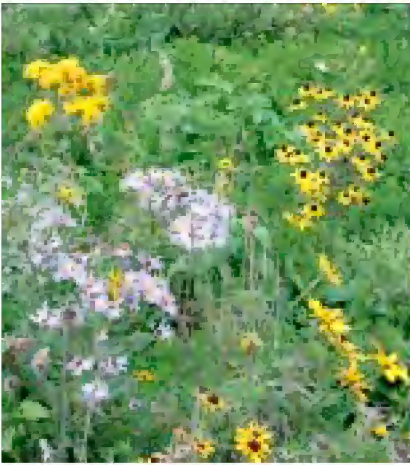
The Society's mailing address is P.O. Box 20401, Bloomington, MN 55420

# Thank you

*Following are excerpts from a thank-you letter from the Greater West Metro Humane Society Memorial Garden Committee.*

"In the spring of 2004, [we] received a \$200 grant from your society to purchase seeds of native plants for our planned prairie wildflower and pond edge areas. The Memorial Garden was planned to create a peaceful landscape next to our adoption center where people could enjoy perennial beds and native plantings. With supporters' donations, we place small granite plaques in the garden in honor and memory of beloved people and pets.

"This year we have seen a great blossoming of our native areas in spite of the harsh heat and drought.



**Memorial garden in bloom**

"In the fall of 2004, we planted a short mesic prairie area above a boulder wall and a small area of short grass woods edge savanna where the trees produced some shade. In the spring of 2005, we planted the edge of our pond with a short sedge meadow mix.

"We hope to develop a path in the prairie area with educational markers and to develop a woodland wildflower garden with path. The planting you funded has brought pleasure to many people and has created a wildlife habitat. ... We hope your members may visit the adoption center and garden someday." The garden is located at 4375 Hwy. 55 S.E., Buffalo, MN 55313.

## Compatibility problem with Flora ID CDs can be fixed

*by Bruce Barnes, Flora ID Northwest, LLC*

The default settings in the just-released Internet Explorer version 7 interfere with the Flora ID XID software the keys run in. Some users may not notice this problem. Below is a description of the problem and the changes in the IE7 settings which are needed for one of the minor features of the program to work

### The Problem

If your computer has Internet Explorer version 5 or 6, when an attribute image or a species image is clicked, it expands to full size in a separate window and there is no problem. If you have Internet Explorer version 7 (IE7), this window appears as a blank screen.

### The Solution

IE7 calls the page which is created "about:blank". So if you add this URL to the list of trusted pages, it will show its content.

The simplest way to do that is: Go to Tools> Internet Options> Security Tab. Select "Trusted sites" and click "Sites" button.

First remove any check mark that may be in the box at the bottom labeled "Require server verification (https:) for all sites in this zone."

Type: "about:blank" (without quotation marks) into the "Add this website to the zone" field (overwriting any address that appears there), and then click "Add" button in the Dialog Box. The words "about:blank" should appear below in the list of websites. Click "Close" to save the settings. In this screen, make sure that the "Security level" for the trusted sites is set to Medium or lower. If the security level is a Custom setting, click Default level to provide a slider that enables you to select the level you wish, in this case Medium or lower. Click OK.

## Oakdale Park benefits from 'Think Native' plantings

*by Ron Rogstad, administrative services director, City of Oakdale; from a city newsletter.*

A group of volunteers from Hope Evangelical Free Church in Oakdale, along with Oakdale city staff, a community volunteer, and the Oakdale Tree Board chair, planted more than 100 native plants and trees in Oakdale Park on June 9 from 9:30 a.m. to noon.

The plants were given as part of the "Think Native" grant program sponsored by the Minnesota Native Plant Society, which is a non-profit organization dedicated to the conservation of the native plants of Minnesota through public education and advocacy.

The Oakdale planting was originally planned for the wetland buffer area near 4th St. N. and Hadley Ave., but was moved to Oakdale Park because the majority of the plants obtained were shade or semi-shade varieties. City Forester Chris Larson prepared prairie, woodland, and meadow sites for the plant materials; all the sites are adjacent to paved walking trails in the park.

The Society established its grant program to educate the public about native plants and to encourage the use of native plants in home and public projects. The city also received surplus seeds from the Society's annual November seed exchange.

Larson plans to use the surplus seeds to help replace the ground cover in the buckthorn removal areas in the park.

The image problem between IE7 and XID will now be corrected.

If you choose to not change the settings, you can still view images at their full size by simply dragging to the left the vertical divider between the left and right windows.

# Growth pressures on natural resources studied

*by Sharon Pfeifer, DNR Central Region community assistance manager. This is an abstract of her talk Dec. 7, 2006, at the MN NPS meeting.*

In the next quarter century, growth pressures in the Twin Cities metropolitan region will be intense, as more than one million new residents and 500,000 new homes consume unprotected, sensitive natural areas.

This GIS-based regional assessment was conducted to: 1) examine socioeconomic changes and potential natural resource impacts, and 2) provide recommendations to address trade-offs between future growth and conservation. Sensitive land and water habitats and groundwater availability were analyzed in the context of social and economic factors, including changes in population, urbanized land area, number and size of new housing subdivisions, commute times, job locations, community types, and local fiscal capacities.

Growth scenarios suggest that regional growth will be most intense at the fringes of the seven-county core region and just beyond in the four "collar counties," where groundwater is an additional constraint to growth. Because most communities in the path of growth have modest or below average tax capacities, they will be challenged to conserve land and water resources. If growth continues in the form of large lot, low-density development, almost all remaining unprotected sensitive natural areas will be developed.

Future conservation will require strategic regional scale planning, conservation cost-sharing, and additional resources to bridge gaps in information, analyses, and technical assistance to communities.

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## Restoration of Arden Hills site

*by Wade J. Hammer, wetland ecologist, Svoboda Ecological Resources. This is an abstract of his presentation at the April 6, 2006, MN NPS meeting.*

The Arden Hills Army Training Site (AHATS) is a 1,786-acre military installation in Ramsey County, Minn. The Original Land Survey, completed in the late 1800s, makes note of bur oak and white oak woodlands, with tamarack swamps in the low areas in the approximate vicinity of the property.

Thirty home sites were displaced when the site was purchased in 1941 by the federal government for use as a military installation. The site hosted 22 years of active munitions production through the Vietnam War. At its peak, 26,000 people were employed there. It was listed as a superfund site in 1983. Clean-up at the site continues.

Tallgrass prairie restoration projects have occurred at the AHATS since the early 1990s. As part of a Masters of Science project, a study assessing the relationships among management (seeding and burning), vegetation, and environmental factors (soil, aspect, and slope) was completed. The study included completion of 75 vegetation surveys, consisting of three random plots in 25 purposively placed grids. The surveys consisted of cover class data for all plant species. The surveys were completed twice during the summer of 2002 (late June/early July and mid-August). Multivariate statistical analyses of the vegetation survey data revealed relationships between vegetation and soil texture, vegetation and shallow depth to ground water (within 1 m), and individual plant species and fire frequency. The intended use of the findings is to improve management of designated tallgrass prairie restoration sites at the AHATS.

# Winter field trips planned

*by Kenneth J. Arndt*

We have planned three MN NPS winter field trips. If you haven't signed up yet, just send an e-mail to me at [karndt@pioneereng.com](mailto:karndt@pioneereng.com) or sign up at our general meeting in February. I will be at the field trip table with sign-up sheets and other information on upcoming trips.

**Saturday, Feb. 17, 1 - 3 p.m., Terrace Horticultural Books, 503 St. Clair Ave., St. Paul.** Owner Kent Patterson has opened his store to all MN NPS members and is offering to donate 20 percent of all sales from the afternoon to the Society. So if we spend \$1,000, then the MN NPS will get \$200. There is no limit to the number of Society members who can come, but I do appreciate your letting me know if you can make it.

**Saturday, March 3, 1-4 p.m., Pine Bend Bluffs SNA in Inver Grove Heights.** Join botanists Scott Milburn and Jason Husveth and urban forester Ken Arndt for an afternoon of winter botany at this fantastic Scientific Natural Area. We will hike from atop the bluffs down through the mixed hardwood/coniferous forests to the Mississippi River, where we will explore the seeps for skunk cabbage in bloom. The hiking will be moderate in difficulty, due to the 150- to 200-foot elevation change from the top of the bluff down to the river. The trail itself is easy going; it's the elevation change I want people to be aware of. We have to limit the number of people to 20, due to site-sensitive reasons. More detailed information will be available in mid-February.

**Late March or early April, Warner Nature Center in Marine on St. Croix.** Join Dr. Jans A. Janssens of Lambda-Max, Ecological Research as we explore the world of bryophytes at this unique natural area. A date will be set in the next month.

# 110-acre prairie is gift to Regal Meadow Preserve

By Melissa Andrie. This excerpt is reprinted with permission from the Aug. 2, 2006, Paynesville Press.

"We have a prairie. What it needs is help continuing as a prairie."

With these words, Don Knutson [former MN NPS president] passed on that land at a dedication ceremony. The prairie, one of very few remaining parcels of wet to wet-mesic prairie, was donated by Knutson to The Nature Conservancy, and it is now one of three areas of land in the Regal Meadow Preserve, which covers a total of about 620 acres. Knutson donated the land in memory of his son, Dean Anders Knutson, who died in 1997.

Grazing and fire created good natural disturbances to the prairie in the past, and it has never been plowed. "You can't rebuild this. It's a genuine native stand," said John Maile, the project manager of the Ordway/Glacial Lakes Project, of which the Regal Meadow is a part.

There are "a whole suite of plants associated" with wet prairie, according to Carmen Converse, the "plant lady" and program director of the Minnesota Department of Natural Resources' County Biological Survey. Some examples are cord grass, blazing star, prairie anemone, and heartleaf golden alexander.

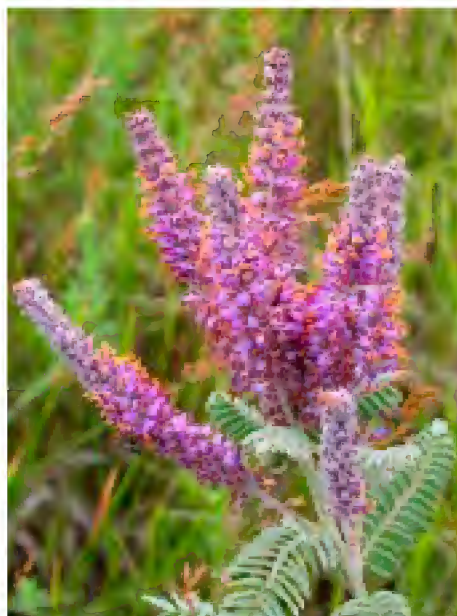
In the floodplain of the Crow River, the Regal Meadow is also home to the small white lady's slipper as well as non-plant life, like the regal fritillary and the Poweshiek skipper, both species of butterflies.

"You get addicted to things," Knutson said of his interest in conservation. Through an unusual series of events, he became the catalyst for the donation of this special piece of land, with its hundreds of species, many of them unique. While he taught a botany class at the University of Minnesota, Twin Cities campus, he was approached by a student who said she and her husband owned a piece of prairie land and wanted him to look at it, to see if it was thriving. Though prairies were not his specialty, he came and discovered it to be thriving prairie.

After Knutson recommended that the couple contact The Nature Conservancy if they ever wanted it to become publicly protected land, he did not hear from them for 10 years. Then the former student contacted him. She wanted to give him the land to take care of and to "keep it as a living, vital, natural prairie system," according to Knutson.

After owning the land for a couple of years, two years ago he began the process of shifting the land from private to public ownership, to make sure that it was protected while he was "still in shape to do it."

The land is located about a half-mile west of Regal on Highway 55. It is open to the public and will continue to be open for hunting.



Leadplant photo by Peter Dziuk

## Plant Lore

by Thor Kommedahl

### What is leadplant?

Leadplant is *Amorpha canescens*, a native perennial shrub in the pea family. It is also called prairie shoestring, downy indigobush, or false indigo.

### How did it get these names?

*Amorpha* is a Greek word meaning "deformed," because it has only one petal instead of five typical of legumes. *Canescent* refers to the hoary leaf appearance due to the short, white hairs, which accounts for the name leadplant, but also it was once thought (erroneously) to be an indicator of lead ore. Shoestring describes the long, tough roots. Because it resembles plants in the genus *Indigofera*, it is sometimes called false indigo or downy indigobush.

### What do plants look like?

They are perennial shrubs usually less than three feet, but up to four feet tall. The alternate leaves are pinnately compound with 15-51 nearly stalkless, whitish, hairy leaflets. Blossoms, in dense terminal spikes, are bluish-purple with a single petal, at first tubular, then unfolding. It has one seed per pod. Bees and wasps are attracted for pollination.

### Where do the shrubs grow?

Leadplant grows in the dry, prairie areas of the state and sometimes in sandy, open woods.

### Is it edible?

Not for humans, but deer, rabbits, and livestock find it palatable; it is high in protein. It is not poisonous either.

### Has it medicinal properties?

Not really; however, Omaha Indians made a paste from stems to treat neuralgia and rheumatism.

### Is it economically important?

It has no particular landscape features, but it is sometimes included in native plant gardens.

Minnesota Native Plant Society  
P.O. Box 20401  
Bloomington, MN 55420

Winter 2007

## Thompson County Park



Take Hwy. 52 to the Butler Ave. E. exit in West St. Paul. Go west on Butler 0.2 miles, then go south on Stassen Lane, the park entrance road.



# Minnesota Plant Press

The Minnesota Native Plant Society Newsletter

Volume 26 Number 3

Spring 2007

## Monthly meetings

Thompson Park Center/Dakota Lodge  
Thompson County Park  
360 Butler Ave. E., West St. Paul, MN 55118  
651-552-7559 (kitchen)  
6 p.m. — Social period  
7–9 p.m. — Program, society business

## Programs

The MN NPS meets the first Thursday in October, November, December, February, March, April, May, and June. Check the website for more program information.

**May 3: “Motorized Recreation in Minnesota: Social and Ecological Consequences,”** by Matt Norton, Minnesota Center for Environmental Advocacy. **Plant of the Month:** *Carex garberi*, Scott Milburn.

**June 7: “Decorative Tree Harvest from Minnesota’s Spruce Bogs: Social and Ecological Consequences,”** by Mike Phillips, DNR Division of Forestry. **Annual Native Plant Sale.**

## See and count orchids

Western prairie fringed orchids and Red River prairies are the focus of a field trip to wildlife management areas near Crookston, Minn., July 7 and 8. Co-sponsors are the MN NPS, Minnesota Department of Natural Resources, and Nature Northwest. Nancy Sather and Derek Anderson of the Minnesota Natural Heritage and Nongame Research Program, MN DNR, will lead participants to orchids in several wildlife management areas. In addition to counting orchids, they will visit a state-of-the art management study at Pembina Trail Preserve and enjoy an evening presentation on recent orchid research. For more information and to register, write to [derek.anderson@dnr.state.mn.us](mailto:derek.anderson@dnr.state.mn.us)

## Restoring Minnesota’s ecological landscape

by Hannah Texler, regional plant ecologist, Minnesota DNR. This is an abstract of part of her talk at the March 8 Society meeting.

As a plant ecologist and an avid native plant gardener, I am heartened by the burgeoning use of native plants for landscaping, gardening, and restoration of disturbed landscapes, and I am grateful to all of the organizations and native plant and seed businesses that are crucial to making this happen. In this age of national discussions about using native prairie mixes for biofuels, it is especially exciting. This makes it an excellent time to take a step back and ask whether the use of native plants is as informed by ecology as it could be.

This article summarizes some of the ways the science of ecology can help us create more successful, diverse, and locally adapted native plantings and restoration projects.

### The ecological issues

The four levels of ecology most pertinent to the topic include landscape, plant community, species, and genetic ecology. I’ll briefly discuss why each is important and give some practical suggestions about resources for incorporating them into practice.

### Landscape ecology

Most of Minnesota’s landscape is characterized by fragmented patches of vegetation, often separated by land uses that provide barriers to the movement of native plants and animals. By paying attention to landscape ecology, one can look for opportunities to connect patches of native habitat, provide meaningful animal movement corridors, and surround isolated native plant communities with appropriate restored habitat.

### Plant community ecology

Many restoration projects are very low in diversity and have been informed by a single goal, such as preventing erosion on steep slopes or providing habitat for a few wildlife species. While these are worthy goals, plantings tend to be more successful and ecologically meaningful when many plant species that occur in the native

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# President's Column

by Scott Milburn

Another year of botanizing is about to begin. This has been an exciting year, and we still have quite a bit to do. The Society has a great deal of momentum, much thanks to our last president, Jason Husveth. Jason's tenure on the board will end in June after six years, and we look forward to his participation in the future. The formula derived by Jason under his tenure was to focus on a few things and to do them well. These few things, which include monthly programs, symposia, the newsletter, and field trips, are the bread and butter of the Society. Logic would suggest continuing with this approach.

As noted in our last newsletter, the Society has been in existence for 25 years. We will celebrate this milestone next September and hope that our entire membership will be able to participate. It is amazing to think how much has changed over the past 25 years, especially in terms of technology. With this increased ability to communicate, we still face the challenge of how best to reach prospective members in an attempt to increase overall membership. The board has started to develop new materials for that very purpose. We are also looking into new ways to make annual membership renewal less burdensome. With this, we are looking to grow, but we cannot do this without your help. I have been extremely impressed with efforts thus far, but I would encourage all of our members to think of ways to attract new members and to expand.

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## Spring and summer field trips

by Ken Arndt

Now is the time to sign up for MN NPS field trips. Sign-up sheets and detailed information will be at each monthly meeting. Or, go to our website and follow the link to "Field Trips" for information and to sign up.

**Saturday, April 28**, 1-4 p.m., join Barr Engineering Botanists Daniel Jones, a Society board member, and Daniel DeJoode at **Nerstrand-Big Woods State Park**. This fine example of "Big Woods" is home to many spring ephemerals and the federally endangered dwarf trout lily.

**Saturday, May 12**, 11 a.m. to 2 p.m., join MN DNR Regional Plant Ecologist Ann Pierce and explore the **Whitewater Wildlife Management Area** in coulee country in southeastern Minnesota.

**June 16 and 17** is a follow-up to this year's symposium on the Prairie Coteau. Join the DNR's Fred Harris, Nancy Sather and Robert Dana in **southwestern Minnesota**, hiking through several plant communities, including a calcareous fen.

**June 30** is a field trip to the **Chippewa National Forest** near Grand Rapids. MN DNR Forest Ecologist John Almendinger will lead an all-day hike through cedar swamps, black spruce bogs, and many upland areas. Plants will include orchids, carnivorous plants, sedges, rushes and grasses.

**Saturday, July 14**, 9 a.m. to 3 p.m., the Society will co-sponsor a working field trip to **Pioneer Park in Blaine**. Work with Critical Connections Ecological Services Ecologist Jason Husveth in the continued effort to restore the fen that is home to several of Minnesota's most rare plants.

**Aug. 9**, 6 to 8:30 p.m., join MN DNR Regional Plant Ecologist Hannah Texlar at **St. Croix Savanna Scientific Natural Area** for a hike through a fantastic hill prairie and oak savanna and assist Hannah with surveying for the rare Louisiana broomrape. This parasitic plant is typically found west of Minnesota, but recently a population was found at this SNA.

# MN NPS Board of Directors

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president@mnnps.org

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**Technical or membership inquiries:** contact@mnnps.org

**Minnesota Plant Press editor:** Gerry Drewry, phone, 651-463-8006; plantpress@mnnps.org

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## Future plant events

The **Linnaeus Symposium** is April 24 and 25 at Gustavus Adolphus College, St. Peter, Minn.

The annual **Friends School Plant Sale** will be May 11 - 13 at the State Fair Grandstand.

**Phalen WaterFest** is May 19 at the Phalen Park Pavilion, Wheelock Pkwy. and Arcade St., St. Paul.

The **Iowa Prairie Conference** will be July 13 and 14 at Briar Cliff University, Sioux City, Iowa.  
www.ipc2007.com

## Ecological issues

### Continued from page 1

plant communities that have become adapted to each site over thousands of years are used. Diverse, locally appropriate plantings also create habitat for more animal species; nectar for butterflies; food for migrating birds, and nesting habitat for reptiles, amphibians, and mammals — all are necessary components of ecosystems. Plant community ecology provides information that can be used to create diverse, locally adapted restorations.

### Species ecology

Species ecology (also called autecology) gives information about traits of individual species that make each adapted to a particular set of conditions. Many of us choose plant species based on their beauty or their potential use as food by a favorite animal. Landscape plantings and restorations are more successful when the species used are those native to and adapted to the local landscape.

### Genetic ecology

Genetic ecology provides information about how a particular ecotype of a species is adapted to a site. There is a great deal of genetic variation among populations of many plant species, giving each population traits that make it adapted to local environmental conditions.

Using plants or seeds from far away may mean the plants are not adapted to local conditions. This can result in lower success and can also import genetic material that can spread to naturally occurring plants, reducing the original population's viability by making the plants less adapted to local conditions. This is especially important with rare species, but is a concern with all naturally occurring plant populations.

### Sources of ecological information

Here are a few ecological resources for native plant gardeners and restoration practitioners:

### General information

An overview of using native plants for landscaping is found at: [www.dnr.state.mn.us/gardens/nativeplants/index.html](http://www.dnr.state.mn.us/gardens/nativeplants/index.html)

The Global Restoration Network, a project of the Society for Ecological Restoration International: [www.globalrestorationnetwork.org/](http://www.globalrestorationnetwork.org/)

Landscape Ecology: Minnesota's Ecological Classification System provides a hierarchical framework for mapping the landscape based on geology, soils, hydrology, and vegetation. For more information: [www.dnr.state.mn.us/ecs/index.html](http://www.dnr.state.mn.us/ecs/index.html)

A number of programs are planning for ecologically meaningful landscape protection and restoration. One is the Conservation Corridors program: [www.dnr.state.mn.us/metroconservationcorridors/index.html](http://www.dnr.state.mn.us/metroconservationcorridors/index.html)

### Plant community, species ecology

The three-volume set of field guides, *Native Plant Communities of Minnesota*, provide the most comprehensive information available about the state's native plant communities. The books can be purchased from Minnesota's Bookstore: [www.comm.media.state.mn.us/bookstore/bookstore.asp](http://www.comm.media.state.mn.us/bookstore/bookstore.asp)

Fact sheets from the books are at: [www.dnr.state.mn.us/npc/index.html](http://www.dnr.state.mn.us/npc/index.html)

Complete species lists for native plant communities in the greater Twin Cities area, derived from vegetation plot data and developed for restoration practitioners are at: [www.greatrivergreening.org/plant\\_communities.asp](http://www.greatrivergreening.org/plant_communities.asp)

### Genetic ecology

A good discussion about the issues surrounding genetic ecology is in the article: *How local is local? A review of practical and conceptual issues in the genetics of restoration*, by John McKay et al, in *Restoration Ecology* Vol. 13, No. 3, pp. 432-440, September 2005. The authors advise that practitioners use local seeds and match climatic and environmental conditions between the sites.

## Wildflower photos help minority group

Peter Dziuk, a nursery inspector for the Minnesota Department of Agriculture and a Society member, has started a wildflower greeting card business with a small minority collective in North Minneapolis. It is called "Wildflowers for Ordinary People."

Proceeds from card sales benefit James Everett's and Sister Jean's efforts to rebuild Minneapolis' North Side. Their projects include at-risk youth programs, the SubZero Collective ([collectivesight.com](http://collectivesight.com)), and Mothers of Slain Sons, a political action committee supporting women who have lost sons to domestic violence or war. For information, call 612-521-8021, ext. 285.

"My intent is to provide a valid source of economic capital for a historically excluded group, while at the same time providing meaningful outreach on a topic that both my spouse and I have become passionate about, to inner-city minority communities and the public at large," Peter said.

Peter has about 20,000 digital images of wildflowers. He has donated all the tools of his project — hundreds of images, several hundred handmade cards, card racks, materials, cutting boards and a computer. Everett is enlisting volunteers to create new cards,

Peter has started to translate the cards into Spanish, Hmong, and Somali and wants to develop tribal contacts. "This is an opportunity to remind people that humans lived in harmony with all of these species for thousands of years," he said.

The cards are sold at \$3.95 each at the Science Museum of Minnesota in St. Paul; Highland Nursery on West 7th St., St. Paul; 101 Market in Otsego, Minn., and through Environmental Justice Advocates of Minnesota. For more information, go to [www.ejamn.org](http://www.ejamn.org).

# Regarding endangered and other listed species

by Roy Robison, president, Landscape Alternatives, Inc., and a former MN NPS board member.

Concern for the diminished natural occurrence of all native plants is central to Landscape Alternatives' very existence. Our policy regarding the plants we propagate and offer for sale has always been that the plants must be of local ecotype as much as is possible and be able to be commercially produced either by our company or by another reputable, licensed nursery.

This policy automatically leads us to avoid all federally listed endangered species. We also avoid plants that either take exceptionally long to produce or have exceptionally stringent establishment criteria, such as the lady slippers. There are many wonderful species that are not considered threatened that we still don't sell because they are just too difficult or unreliable to propagate. We'd like to change that but can only do so much on our own. We look to the University of Minnesota and the appropriate state agencies for leadership in research and support for our industry.

Thus, we were very disappointed when we learned recently of efforts to apply the Minnesota Endangered Species prohibitions to our work. We certainly support the intent of the law to stop the wanton destruction of Minnesota's rare natural resources. We have always strongly discouraged digging from the wild because even if the transplant is successful, there is no net increase in population. This is the key to the matter. Landscape Alternatives and other reputable native plant and seed nurseries work to increase populations of native plants and, by their use of local germplasm sources, preserve the existing gene pool.

There are three main aspects to the Minnesota Endangered Species Act,

as we understand it. The first is the prohibition. This is the gist of the complaint being made. The second looks beyond protecting what is here to the future, when listed species may be so abundant as to no longer be threatened. This is where Minnesota's native plant nurseries have a great role to play. We should be seen as partners with state regulatory agencies, not adversaries in protecting Minnesota's natural plant resources! Minnesota's professional native plant nurseries have the propagation experience and facilities required to make a valuable contribution to solving the endangered species problem.

Finally, as with all state legislation that may affect interstate commerce, there is an important exclusion to the law. Any state-listed (not federal) plants purchased legally outside of the state may be transported legally into the state. Such interstate commerce is protected by the United States Constitution.

The natural ranges of native species do not follow political boundaries. A given species may be "rare" in one state because the state line crosses through the edge of the species' natural range. On the other side of that line, the plant may not be considered "rare" at all and thus can be propagated and sold. Therefore, should efforts to restrict Minnesota native plant nurseries from working with certain listed species succeed, all that will be accomplished is to harm part of our state's business community. Our customers will just buy from outstate sources. This will only increase the threat to local genetic populations.

For the good of all Minnesota native plants and the small nursery businesses that raise them, we ask state officials to work with us so that one day no Minnesota native plant will be endangered.

# DNR response

by Hannah Texler, regional plant ecologist, Minnesota DNR

On behalf of the DNR, I want to thank Roy for expressing his concerns and for participating with me and others on the panel at the MN NPS meeting where this was discussed.

As I said at the meeting, we greatly appreciate the vital work done by native plant and seed nurseries, and we consider them important partners in the protection and stewardship of biodiversity. We also acknowledge that the endangered species statute and rules are imperfect and difficult to interpret and hope to be able to improve them once we have the resources to do so.

I would like to correct two points that Roy made in his letter. First, the law has always applied to native plant and seed nurseries; this is not new. Second, he is correct in stating that by law (Minnesota Statute 84.0895) we can't prohibit importation into this state and subsequent possession, transport or sale of state-endangered and threatened plants that are legally brought here from another state. However, we can regulate these activities.

Our interpretation is that while nurseries from other states can legally bring plants or seeds from species that are endangered or threatened in Minnesota into the state, these species cannot be propagated or planted here without a permit. So effectively, no one can plant state-listed endangered or threatened species without a permit. For a discussion about why we believe the law does protect rare species, see the article in the Winter 2007 Minnesota Plant Press.

*Note: Roy Robison's comments and the DNR response are a follow-up to the panel discussion at the March 8, 2007, MN NPS meeting.*

# Native vegetation has valuable riparian role

*by Brian Nerbonne, stream habitat specialist, Minnesota DNR Central Region Fisheries. This is an abstract of his presentation at the Nov. 2, 2006, meeting.*

It's easy to think of a stream as a world unto itself — its own ecosystem contained within the banks that define it, with separate worlds living above and below the water's surface. However, streams are intimately tied to the land use of the entire watershed that surrounds them, especially the streamside environment known as the riparian area.

The riparian area of streams serves many functions that are crucial to their physical condition as well as biological makeup, and the vegetation present is the most important factor in how riparian areas affect streams. One of the most direct effects is how vegetation controls the stability of stream banks, thereby contributing to the shape and dimensions of the stream channel. Non-native species such as Kentucky bluegrass or smooth brome have roots that penetrate up to only a foot into the soil, while native grasses such as big bluestem or switchgrass have root masses that extend up to six feet deep.

For stream banks that exceed more than a foot in height, only deeper-rooted native vegetation is able to hold soil together to reduce erosion. The same can be said for native tree and shrub species such as green ash, cottonwood, various dogwood species, and most willow species. These woody plants have roots that penetrate around three feet into the soil. They are generally better at holding stream banks in place than herbaceous vegetation, due to the greater diameter of the roots of woody plants. Non-native woody invasives such as buckthorn do not

provide as much protection for stream banks because they create dense monocultures that limit understory growth and deter the regeneration of longer lived and deeper-rooting tree species.

Runoff from the surrounding landscape must pass through the riparian area as it drains off the land, meaning the riparian area serves an important function in buffering the stream from pollutants such as silt and excessive nutrients. Riparian vegetation slows runoff velocity and settles out sediment particles, as well as the phosphorus that is frequently bound to them. Both woody and herbaceous vegetation are able to remove sediment, although grassed buffers tend to be slightly more effective due to a higher stem density that is better at slowing runoff. Buffers are also effective at removing nitrogen and pesticides.

Riparian vegetation is especially important in providing habitat for organisms that live in the stream. Overhanging vegetation and undercuts below well-rooted stream banks provide overhead cover that is important in protecting fish from avian predators. Additionally, wood habitat in streams is crucial to the invertebrates that form a lower level of the aquatic food chain. These invertebrates rely on wood as stable refuge from the shifting sands that often comprise the bed of streams. Other invertebrates, especially in small streams where shading limits algal production, rely on leafy detritus from surrounding vegetation as their primary food source.

Excessive stream bank erosion can contribute to a decline in sensitive stream biota due to reduced foraging efficiency in turbid waters, sedimentation of gravel areas important for invertebrate production, or the smothering of fish

eggs while they incubate on the stream bottom.

Stream restoration work often focuses on stabilizing eroding stream banks, although the methods used vary significantly. Traditionally, stream banks were covered in rock riprap to reduce erosion, but this approach often only shifts erosion problems downstream, does not improve habitat, and can lead to increased warming of the stream. An alternative is to employ temporary techniques to stabilize the steam bank while establishing suitable vegetation to create a stable stream bank in the long term. A riparian buffer of an appropriate mix of native grasses, forbs, sedges, shrubs, or trees suited to site conditions is one of the best long-term solutions to protect stream health.

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## Plant sale is June 7

*by Ken Arndt*

Our annual native plant sale will be June 7, following the speaker's presentation. We encourage members to divide or propagate their own native plants and donate them. A few volunteers are needed to help set up the sales area and assist members with their plants. When the sale begins, volunteers will select plants first, followed by those who donated plants, and then by other members and visitors.

The sale will be on the patio outside of Dakota Lodge. Bring your plants by 6 p.m. We want only native plants from Minnesota and western Wisconsin. Do not bring cultivars (horticultural selection) of native plants. Plants should come from your own property, gardens or other private property, with that owner's permission, but not public property.

Dig your plants two to four weeks before the sale, put them in typical nursery containers, and label them with both common and scientific names. Pricing will be done by volunteers. Dave Crawford and Ken Arndt are co-chairs. To volunteer, contact [karndt@ccesinc.com](mailto:karndt@ccesinc.com) or call 651-433-4410.

# Accessory treatments help suppress reed canary grass

by Craig A. Annen, consulting ecologist, Michler & Brown, LLC.

In a previous article (*Minnesota Plant Press*, Spring 2005), I reported on the effects of a grass-specific herbicide, Vantage<sup>®</sup> (sethoxydim), on reed canary grass. [Vantage is presently marketed as Sethoxydim G PRO<sup>®</sup>.] After observing substantial recovery in the post-treatment regrowth year, I postulated that apical dominance in reed canary grass rhizomes might affect herbicide performance and the ability of this species to recover (resurge) from herbicide treatments. In this article, I summarize results of an experiment designed to test if short-circuiting rhizome apical dominance prior to sethoxydim application would enhance this herbicide's effects on reed canary grass.

The purpose of this experiment was to determine if either tillage or plant growth regulator (PGR) pretreatment followed by sethoxydim application would suppress reed canary grass to a greater extent than solitary use of herbicide. One year of coupling tillage (ca. June 1) to sethoxydim application (ca. June 21) reduced reed canary grass stem density 35 percent greater than sethoxydim application only.

Two consecutive years of the tillage-sethoxydim treatment reduced reed canary grass stem density 443 percent greater than sethoxydim application only. Tillage also enhanced native species abundance (up to 270 percent) and diversity (up to 87 percent) because tillage stirs up the seed bank and buries litter, facilitating germination. Application of a 2:1 mixture of Cycocel<sup>®</sup> (chlormequat chloride) and Proxy<sup>®</sup> (ethephon) growth regulators (ca. June 15) followed by herbicide application (ca. June 21) for two consecutive growing seasons reduced reed canary grass stem

density 26 percent greater than sethoxydim application alone.

A vegetation survey was conducted during the post-treatment regrowth year to assess the degree of reed canary grass resurgence taking place in each treatment. Resurgence occurred in all treatment plots during the regrowth year, but it occurred to a lesser extent in tillage-herbicide and PGR-herbicide plots than in sethoxydim-only plots. Thus, coupling tillage and PGR pretreatments to sethoxydim application for two consecutive growing seasons reduced reed canary grass resurgence capacity relative to solitary herbicide use. In general, plots that were more diverse at the beginning of the experiment responded more positively to treatments than plots that were less diverse or monotypic at the beginning of the experiment, regardless of which treatment was administered. The presence of native vegetation may augment control measures by shading out reed canary grass during its recovery period. Although tillage and PGR pretreatments enhanced sethoxydim's effectiveness on reed canary grass, multiple-year treatments were required to reduce resurgence capacity, demonstrating the necessity for long-term management to control this species.

Surges in native species abundance and diversity may not always accompany tillage treatments. The diversity-enhancing effects of tillage may be limited to transitional communities where reed canary grass is commingled with native species or occurs as a clonal patch within a native species matrix, areas where native species seed banks are more likely to be intact and in moderate or high density. I am presently testing this hypothesis with a tillage experiment in a restored

landscape that has a limited seed bank due to previous land-use history.

A variety of treatments and treatment combinations are available for reed canary grass abatement and subsequent native species restoration. Results of this study demonstrate that tillage and plant growth regulator pretreatments can enhance the effectiveness of sethoxydim on reed canary grass if administered for at least two consecutive growing seasons.

*Craig A. Annen is a practicing restorationist and researcher. For more information, contact him at 608-424-6997 or [annen00@aol.com](mailto:annen00@aol.com).*

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## Help search for dwarf trout lilies

The Minnesota Natural Heritage and Nongame Research Program is seeking volunteers to help with dwarf trout lily monitoring and searches. They especially need volunteers who are available on weekdays.

Volunteers work in teams to search designated areas under supervision of DNR staff and/or experienced volunteers. The exact schedule depends on lily phenology and can occur anytime between April 23 and May 10. All work is within an hour's drive south of the Twin Cities in Rice, Goodhue, or Steele Counties. Minimum time commitment is one full day. Sites vary in topographic difficulty and risk of getting wet feet. Training is in the field.

To volunteer, contact Derek Anderson, botany assistant: [derek.anderson@dnr.state.mn.us](mailto:derek.anderson@dnr.state.mn.us) or 651-259-5071. Include your full name; phone number where you are best reached at the last minute; and e-mail if possible. Indicate the total number of days you are willing to commit, and list dates during the two-week time period when you are available. You can expect a follow-up e-mail or phone call no earlier than the week of April 16.

# Plant Lore

by Thor Kommedahl

## What is spiderwort?

Spiderwort is *Tradescantia bracteata*, *T. occidentalis*, or *T. ohimensis*. They are in the spiderwort family (Commelinaceae) of monocotyledons — these three of six species are native to Minnesota.

## Where did it get its names?

*Tradescantia* was named after British plant collector John Tradescant (1608-1637). He was gardener to King Charles I in London. It was named spiderwort either because the sap from broken stems forms filaments like a spider's web, or the angular leaf arrangement suggests a squatting spider. *Bracteata* refers to bracts in the inflorescence. *Occidentalis* means western and *ohimensis* means of Ohio. Wort means herb, but is often added to common names if a plant was once used in medicine.

## Where does the plant grow?

Spiderworts are typically prairie plants: *T. bracteata* is the most widely distributed of the three native species in Minnesota, and *T. ohimensis* occurs in extreme southeast counties of the state. However, *T. ohimensis* and some other species have been planted in gardens and have escaped cultivation elsewhere.

## What does the plant look like?

Plants are perennials. All three species have three petals that are blue to rose-colored, six stamens, and flowers that are borne in umbel-like cymes. Long bracts that resemble leaves in shape subtend the flowers. *T. bracteata* has dense, sticky hairs on sepals and pedicels, *T. occidentalis* is sparsely hairy, and *T. ohimensis* is hairless.

## Does it have any medicinal uses?

Cherokee Indians made a plant tea for treatment of kidney and stomach ailments. A leaf poultice was applied to insect bites, and a root poultice for cancers.



Photo of *T. occidentalis* by Scott Milburn

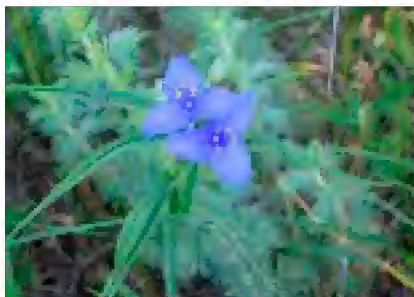


Photo of *T. bracteata* by Sean Jergens

## Does it have any economic importance?

Although grown as an ornamental in gardens, none of these three species is as popular as *T. virginiana*. Wandering Jew (*T. fluminensis*) is grown as a house plant. Spiderworts have been eaten as a raw salad or pot herb.

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## A winter afternoon

by Ken Arndt

On Feb. 17, 10 MN NPS members enjoyed a warm afternoon outing at Terrace Horticultural Books in St. Paul, shopping for plant books. Owner Kent Petterson opened his store for us and also donated 10 percent of sales from member purchases to the Society. He gave us a tour and a short history of the business before we were let loose in the candy store. If you didn't make it, go to this great little bookstore sometime. Information is at [www.terracehorticulturalbooks.com](http://www.terracehorticulturalbooks.com)

# Robert (Bob) Jacobson dies

by Roy Robison and George Hild

The Minnesota Native Plant Society lost a good friend when Robert (Bob) Jacobson died suddenly Jan. 23 at his home in St. Paul.

Bob was a very active member of the Society. Besides attending numerous monthly meetings, leading field trips and presenting several talks, he also was the editor of the *Minnesota Plant Press* from fall of 1990 through spring of 1993 and a frequent contributor of articles.

He is survived by his parents, Jean and Robert L. Jacobson of Minnetonka, and his brother, Ronald Jacobson, of White Bear Lake.

Bob worked at MnDOT for 19 years and played an important role in getting the state to use local native ecotypes in MnDOT projects. He worked closely with other organizations to develop specifications that are still used today. He was currently working on various wetland programs in the Environmental Services Department of MnDOT.

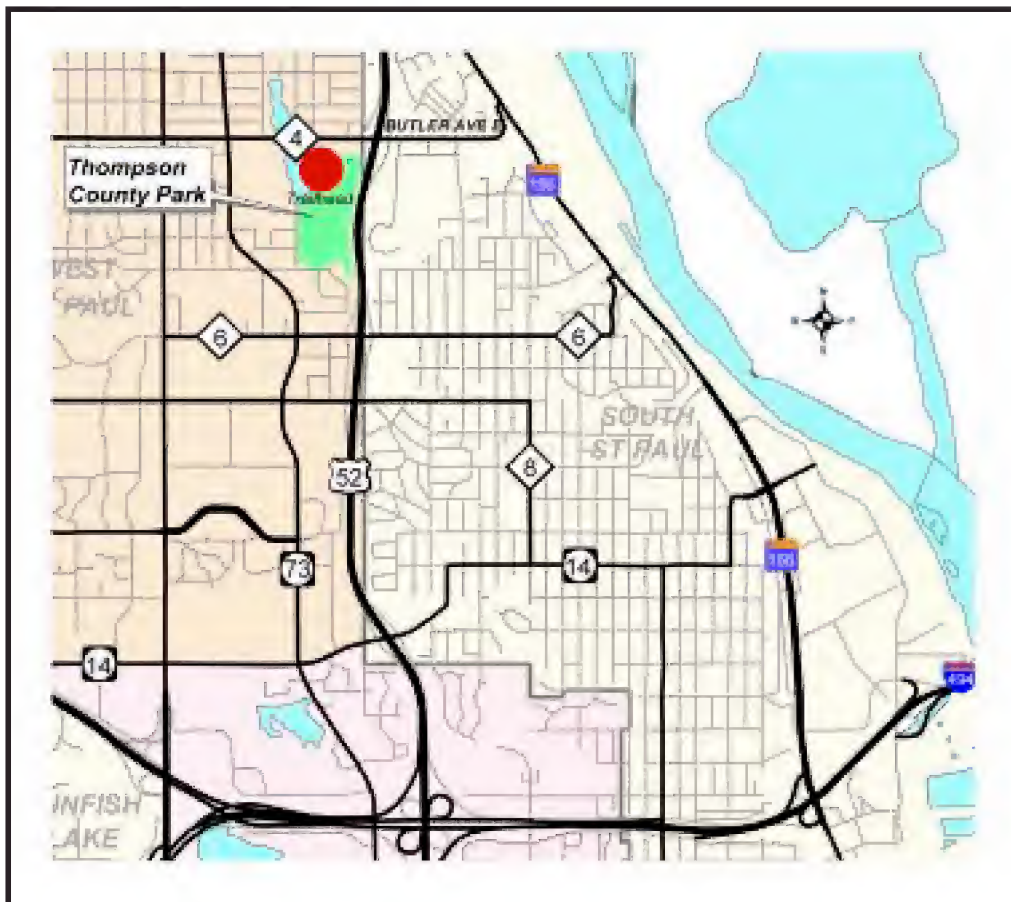
Bob helped the use of Minnesota native plants by testifying before several committees at the state Capitol a few years ago, supporting the use of natives along roadsides and against a law that would have banned their use.

Bob loved plants; he also loved animals. He lost his big black dog a few years ago, and that was hard on him. Bjorn was a slobbering scoundrel that Bob insisted on bringing with him on field trips. He was also a "leaner," so combined with the dripping, the experience always proved interesting.

There are plans to rename a couple of wetland projects for Bob, as well as the establishment of the Bob Jacobson Wetland Memorial Fund. Donations are also being accepted by the Humane Society.

Minnesota Native Plant Society  
P.O. Box 20401  
Bloomington, MN 55420

Spring 2007





# Minnesota Plant Press

The Minnesota Native Plant Society Newsletter

Volume 26 Number 4

Summer 2007

## Monthly meetings

Thompson Park Center/Dakota Lodge  
Thompson County Park  
360 Butler Ave. E., West St. Paul, MN 55118  
651-552-7559 (kitchen)

6 p.m. — Social period

7 – 9 p.m. — Program, society business

## Programs

The MN NPS meets the first Thursday in October, November, December, February, March, April, May, and June. Check the website for more program information.

**Oct. 4: “The harvesting of herbal medicines; concerns for protecting plant species and plant communities,”** by Erica Fargione, herbalist. **Plant of the Month:** *Panax quinquefolium*, American ginseng.

**Nov. 1: “Effects of moose browsing on long-term forest succession on Isle Royale,”** by Dr. Peter Jordan, University of Minnesota. **Annual seed exchange** following the program. Package seeds in small envelopes; label them.

## 2008 Symposium being planned

The North Shore highlands will be the subject of the Society’s 2008 symposium. Details have not been finalized, but it will probably be held at the Bell Museum on the University of Minnesota campus. Information will be posted on the website.

## Society has a blog

MN NPS information and comments can be read on the Society’s blog. Go to [www.mnnps.blogspot.com](http://www.mnnps.blogspot.com) to see what is posted. Information will continue to be posted on the Society’s website, [www.mnnps.org](http://www.mnnps.org)

## Non-native invasives threatening Chippewa National Forest

*On June 20, the Minnesota Native Plant Society Board submitted comments opposing the Chippewa National Forest Off-Highway Vehicle (OHV) Road Travel Access Project. Beth Nixon, a MN NPS board member, prepared the document and attached papers that were cited in footnotes. Following are the comments.*

1. Non-native invasive plant species present on the Chippewa National Forest are a top ecological threat to these USFS lands, and have been identified by Dale Bosworth, former chief of the U.S. Forest Service, as one of the four top threats to the nation’s forests and rangelands. In the Chippewa, there are 13 species of ingenious propagators, producing enormous amounts of seed with a variety of dispersal mechanisms. Invasives as a group are a major drain on the national, state, and local economies, costing the country roughly \$138 billion each year, according to the USFS document “National Strategy and Implementation Plan for Invasive Species Management.”

2. An OHV will spread non-native invasive species very, very effectively in several ways, including:

a. As is commonly known, the OHV driver travels readily back and forth between a variety of land cover types, disseminating invasive propagules into a wide variety of more remote and ecologically sensitive natural areas, even when those areas are technically off-limits;

b. The OHV tire size and configuration will very efficiently denude and then transport large quantities of soil laden with a high concentration of propagules when driven through an infestation, and then afterwards deposit those propagules for distances of over 10 miles;

c. OHVs often are driven on roadsides, where thick infestations of non-native invasive species are most likely to exist.

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# President's column

by Scott Milburn, president

The Society is coming off another great year and one to be proud of. Our membership is strong and active, as seen with the number of members attending our events. In keeping with our mission, we have provided an opportunity to learn and expand as we explored the flora of our state.

To recap this past year, we dove into conservation issues such as alternative agricultural practices and how that affects our native biodiversity. We also spent a great day at the Bell Museum of Natural History learning about the fascinating Prairie Coteau, with much insight provided by the talented folks at the Minnesota Department of Natural Resources. The Society was also fortunate to have a great line-up of field trips, including a great lesson in forested wetland ecology and the visual experience of the incredible vegetative composition present in these communities. All in all, it was a great year of learning. I would like to thank those who helped this year and hope for more of the same in the upcoming year.

The board, an ever changing group itself, has several new members who bring a lot to the table. I am excited and pleased to be working with this group of individuals, and I think the Society will be pleased with our future efforts.

Over the past several board meetings, the board made several changes to our membership policies. No need to worry about raising membership costs, as it appears we are inflation-proof for the time being. In all seriousness, it was felt that we need to maintain continuity with our membership. The board recently voted to change our membership year from October to January of every year to correlate with the calendar year, in an attempt to eliminate forgotten renewals. Another exciting change is the ability to become a lifetime member of the Society.

Not only do we want to retain our members, we would like to increase our membership. There is a large demographic out there that has an interest in the natural history of Minnesota. It is our job to reach out to this group and engage them. Perhaps the best start is for everyone in our membership to introduce a friend to the Society. By doing this, we have a great opportunity to grow, expand, and add to what we do as a Society.

## Minnesota Native Plant Society's purpose

*(Abbreviated from the bylaws)*

This organization is exclusively organized and operated for educational and scientific purposes, including the following:

1. Conservation of all native plants.
2. Continuing education of all members in the plant sciences.
3. Education of the public regarding environmental protection of plant life.
4. Encouragement of research and publications on plants native to Minnesota.
5. Study of legislation on Minnesota flora, vegetation and ecosystems.
6. Preservation of special plants, plant communities and scientific and natural areas.
7. Cooperation in programs concerned with the ecology of natural resources and scenic features.
8. Fellowship with all persons interested in native plants through meetings, lectures, workshops and field trips.

## MN NPS Board of Directors

**President:** Scott Milburn,  
president@mnnps.org

**Vice President:** Shirley Mah Kooyman, vp@mnnps.org

**Secretary:** Sean Jergens,  
secretary@mnnps.org

**Treasurer:** Ron and Cathy Huber, treasurer@mnnps.org

**Ken Arndt**, board member,  
karndt@mnnps.org

**Peter Dziuk**, board member,  
pdziuk@mnnps.org

**Linda Huhn**, board member and  
program coordinator, 612-374-1435

**Daniel Jones**,  
djones@mnnps.org

**Beth Nixon**, bnixon@mnnps.org

**Russ Schaffenberg**,  
rschaffenberg@mnnps.org

**Listserv Coordinator:** Charles Umbanhowar, ceumb@stolaf.edu

**Field Trips:**  
fieldtrips@mnnps.org

**Memberships:**  
memberships@mnnps.org; 651-739-4323

**Historian/Archives:** Roy Robison, historian/  
archives@mnnps.org

**Technical or membership inquiries:** contact@mnnps.org

**New member packets:** Chuck and Ellen Peck, 651-739-4323

**Minnesota Plant Press editor:** Gerry Drewry, phone, 651-463-8006; plantpress@mnnps.org

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## MN NPS website

For current information about MN NPS field trips, meetings, and other events, check the website: [www.mnnps.org](http://www.mnnps.org)

# OHV damage

**Continued from page 1**

3. OHV routes should not be designated in any areas known to be infested with any non-native invasive species, or areas thought to be more likely to be infested, or in environments most susceptible to being invaded if the same route or a connected route also traverses areas likely to be or known to be infested with non-native invasive species.

4. OHVs should not be permitted to travel on roads that run through or near to sugar maple and other northern hardwood stands, thereby introducing another stressor to areas which the Environmental Assessment Wildlife Report identifies as the most susceptible communities to earthworm-caused damage.

5. The ability to find places for watching wildlife or for enjoying or studying rare native plants and high-quality native plant community assemblages in a remote natural setting, without the interference of OHVs, is itself rare and becoming rarer.

6. Actions that accelerate the rate or extent of spread of non-native invasive species will damage soils, water quality, vegetation, and habitat for wildlife, for which there may be up to 27 percent of the state's population of mammal Species in Greatest Conservation Need (SGCN), a group of species representing a threshold level for significant effects; 22 federal and state threatened, endangered or special concern species; sensitive plant species such as the goblin fern; and several other rare moonwort species known in the Chippewa.

7. Designating OHV routes through areas that are in fact infested with non-native invasive species will

greatly accelerate the spread of non-native invasive species.

8. Designating hundreds of miles of routes without reasonably complete knowledge of where all non-native invasive species infestations are located on the Chippewa National Forest will likely result in designation of many routes that are presently infested with one or more non-native invasive species.

9. OHVs will rapidly spread non-native invasive species to many intersecting routes, including some undesignated routes, making it very difficult and perhaps impossible to control, eradicate, or even effectively manage and monitor the spread of non-native invasive species in the forest.

10. The project at issue has the capacity to do tremendous damage to the environment because it involves a highly efficient mechanism for spreading non-native invasive species, and project planning has occurred in the absence of reasonably complete knowledge of all non-native invasive species locations, or even those representing the highest ecological threat levels.

11. Extensive surveys for all non-native invasive species should be conducted on all road, other motorized travel corridors, and proposed route alternatives at the earliest possible time, particularly since over 82 percent of all Chippewa and Federal lands are within a half mile of route alternatives.

12. The project is likely to cause significant environmental effects and requires a full Environmental Impact Statement, in part due to the unknown impacts on Minnesota SGCN. The EIS should proceed only after a comprehensive survey of SGCN, and concurrent with or after non-native invasive species surveys have been completed on all road and other potential travel corridors within

the Chippewa National Forest statutory boundary likely to have a moderate risk of infestation by a non-native invasive species with a moderate, high, or very high ecological risk categorization by the USFS. These species include all those terrestrial plant species listed as occurring on the Chippewa, as well as exotic earthworm infestations surveyed according to level of infestation. In the estimation of the Minnesota Native Plant Society, infestations of haplotype common reedgrass and hybrid cattail should also be surveyed, since extreme OHV use can include marshy areas.

13. The above comments are consistent with direction in the Chippewa National Forest's current Forest Plan, including specifically direction regarding soils, vegetation management, wildlife, threatened and endangered species, non-native invasive species, social and economic stability, recreation, trails, and recreational motor vehicles.

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## ***School sends thanks for donated plants***

At the close of the June plant sale, all unsold plants were donated to Garlough School in West St. Paul. In the following letter, Susan Simon explains how the plants were used.

"Thank you for donating the 'leftover' native plants from the sale to Garlough Environmental Magnet School. We are an elementary school located at 1740 Charlton Ave., across from Dodge Nature Center.

"Our school is developing an environmental curriculum that will include outdoor study areas. Although much of the landscape is currently turf grass in different stages of decline, we are working to restore prairie, woodlands, wetland and put in raingardens. The plants you donated will add much needed plant material. Thanks again, Garlough School."

# Getting started on mushroom identification

by David and Esther McLaughlin

At the March MN NPS meeting, several members expressed interest in learning about mushroom identification and natural history. We thought we might provide the *Minnesota Plant Press* with information on books that would be most useful and accessible for beginners. These books are fairly widely available, either on-line or by ordering through local booksellers. All have colored photographs and cover many of the mushrooms you are likely to find in Minnesota and environs in the spring, summer and fall. But be aware that there are many more species here than any of these books cover.

Barron, G. L. *Mushrooms of Northeast North America*, 1999. Lone Pine Publishing Co.

Huffman, D.M., et al. *Mushrooms and Other Fungi of the Midcontinental United States*, 1989. Iowa State University Press, Ames.

Lincoff, G. H. *The Audubon Society Field Guide to North American Mushrooms*, 1981. A. A. Knopf, Inc., New York.

Miller, O. K., Jr. and H. H. Miller. *North American Mushrooms*, 2006. Globe Pequot Press, Guilford, CN.

Smith, A.H. and N.S. Weber. *The Mushroom Hunter's Field Guide*, 1980. University of Michigan Press, Ann Arbor.

So which book should you choose? We especially like Barron's book, as it is very well illustrated, and the photographic guide at the beginning is an effective way to find the right group. The Millers' book is very up-to-date and more complete than the rest but covers a much broader area. All are good, so you should be successful with any of them.

If you want help in getting started on mushroom identification or want to go on a mushroom foray, the Minnesota Mycological Society meetings and forays can be very helpful. You can find out about them from their website:

[www.minnesotamushrooms.org](http://www.minnesotamushrooms.org)

[Botanizers go on field trips; mushroomers go on forays.]

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## Volunteers are needed

### Conservation committee

Would you like to receive timely information about conservation issues? That is one of the benefits for members of the MN NPS Conservation Committee. If you are interested, contact Beth Nixon at [bnixon@mnnp.org](mailto:bnixon@mnnp.org)

### Social coordinator

The Society needs a new social coordinator. This person helps members and visitors get acquainted at the monthly meetings. Responsibilities include arranging for snacks and providing name tags. Ann McGee has been the coordinator. If you are interested, let any board member know.

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## Plant sale earns \$842 for Society

Total proceeds from the June 7, 2007, plant sale were \$842, Treasurer Ron Huber reported. This is an increase from the \$789 total in 2006.

John Arthur's auction photos brought \$82; Peter Dziuk's photos, \$38; auction plants, \$76; and sale plants, \$646. The plant sale is the Society's major fund-raising project. The board thanks everyone who donated plants and pictures.

## Membership year will start Jan. 1; life option added

The Minnesota Native Plant Society Board of Directors has voted to change the membership year to a calendar year. The membership year, which has started Oct. 1, will now start Jan. 1.

As a result of this change, all current annual or multi-year memberships will be extended three months. All annual memberships will be due for renewal Jan. 1, 2008.

Members are encouraged to pay dues for several years in advance, if they wish. This option is not available for donors, who receive a tax deduction for the donation portion of their payment.

Life Memberships for adults are now available at a cost of \$300.

Membership categories are as follows.

- \$15 Individual
- \$15 Family (two or more people at the same address)
- \$8 Student (full time)
- \$8 Senior (over 62 or retired)
- \$20 Institution
- \$25 Donor
- \$300 Life (for adults)

David Johnson keeps the data base of members. He also distributes the e-mail copies of this newsletter.

You may join or renew your membership at any monthly meeting, or mail your check and information to: Minnesota Native Plant Society, P.O. Box 20401, Bloomington, MN 55420.

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## Anniversary party being planned

Watch the website and your mail for announcement of a MN NPS 25th anniversary celebration.

# Orchids everywhere

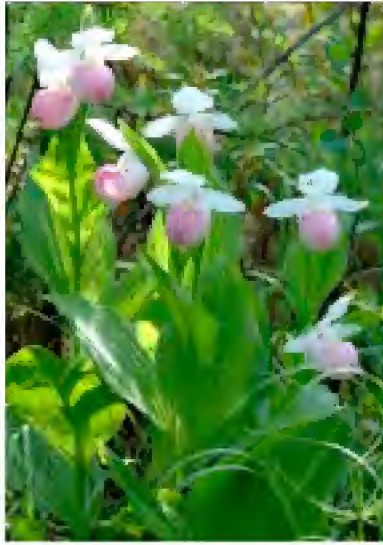
Article and photos by Ken Arndt

On June 30, the MN NPS held a field trip to the Hill City area of northern Minnesota, led by DNR Forest Ecologist Dr. John Almendinger. Over 30 field trip participants decided to make the journey north to take in this very special part of the state.

We began the morning near the parking area, with a brief talk by John about the rich cedar swamp we were about to enter and some of the plants that we would be seeing. Once we all were together, we started to hike into the cedar swamp by going down a small hill through recent aspen slash a hundred feet or so. At the bottom of the slope, the terrain leveled out into eastern white cedar, black spruce and a carpet of sphagnum moss. We followed a narrow path into the swamp for a few hundred feet more, to where many



*Platantera dilatata*, tall white bog-orchid.



*Cypripedium reginae*, Showy pink lady's-slipper orchid.

of the native orchid species were found.

Within a very short time you could hear someone call out "over here is an orchid!" All around us we were starting to see the many different native orchids and other interesting plants that call this place home. Needless to say, we didn't move very far from this point for the whole day. Several folks brought their photographic equipment to capture these spectacular plants, while others were able to wander around and take it all in at a very reasonable pace.

Throughout the day, John would gather us together and lead impromptu talks about different topics like peat formation and accumulation, as well as the local geology and ecology of this region of Minnesota. We had lunch in the swamp and ended up spending the rest of the day within a few hundred feet of where we started.

Twelve different native orchids were found within this cedar swamp, with most in bloom. They include:

*Amerorchis rotundifolia*, *Arethusa bulbosa*, *Calopogon tuberosus*, *Corallorhiza striata*, *Cypripedium*

*acaule*, *C. calceolus* var. *parviflorum*, *C. calceolus* var. *pubescens*, *C. reginae*, *Listera cordata*, *Platantera dilatata*, *P. hyperborea*, and *P. obtusata*.

John mentioned that last year's orchid display was by far more intense than this year's. I think we were all very impressed by what we got to experience that day.

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## The snow was deep at Pine Bend SNA

by Ken Arndt

Who ordered the foot plus of snow two days before our field trip to Pine Bend Scientific Natural Area? On March 3, Jason Husveth, Scott Milburn and Ken Arndt led 12 brave souls through the snow at Pine Bend SNA. This new SNA is just east of Hwy. 52 in Inver Grove Heights.

We started the afternoon hike at the top of the bluff, where we were treated to a fantastic view of the Mississippi River some 200 feet below. From there we took a trail down to the river, identifying plants as we came across them. It's a good thing a few of the trip participants were smart enough to bring snowshoes. Naturally, we let them blaze the trail for the rest of us.

With the deep snow cover, our plant identification was heavy on the woodies, as you might imagine, with a few herbaceous plants still visible. The oak-dominated forest mixes with white pine in areas and then transitions into lowland floodplain species closer to the river's edge. Once we got down to river level, we were able to explore the seeps where the skunk cabbage grows. Luckily, the seeps flow year round, so the snow was no match for the water flowing out from the bluff slopes. Most of the seeps had little, if any, snow cover, so seeing the skunk cabbage was not a problem. A few of the skunk cabbage flowers were even beginning to open (a sign that spring was near).

# New international standard for collection of wild plants is adopted

A new standard to promote the sustainable management and trade in wild medicinal and aromatic plants (MAP) was launched Feb. 16 at Biofach, the World Organic Trade Fair, in Nuremberg, Germany.

The International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants (ISSC-MAP) was drawn up following extensive consultation with plant experts and the herbal products industry worldwide. It promotes appropriate management of wild plant populations to ensure plants used in medicine and cosmetics are not over-exploited.

The ISSC-MAP is based on six principles: maintaining wild MAP resources, preventing negative environmental impacts, legal compliance, respecting customary rights, applying responsible management practices, and applying responsible business practices. It can be downloaded from <http://www.floraweb.de/proxy/floraweb/map-pro/>

"Traders and companies, collectors and consumers must share the responsibility for maintaining populations of medicinal plants which are valuable natural resources," said Susanne Honnef of TRAFFIC, the wildlife trade monitoring network. "The ISSC-MAP principles and criteria show how this can be achieved in practice."

More than 400,000 tons of medicinal and aromatic plants are traded worldwide annually, with around 80 percent of the species

harvested from the wild. Almost 70,000 species are involved, many of them are in danger of over-exploitation and even extinction through over-collection and habitat loss. For example, in India, almost 300 medicinal plants are considered threatened by IUCN — the World Conservation Union.

Traditional Medicinals, one of the industry's leading companies, is investigating applying the new standard to the collection of bearberry, a shrub whose leaves are used for the treatment of a variety of conditions, mainly of the diuretic and urinary tract.

"Our German supplier was able to prove the sustainability of their bearberry sources, and we are keen to see how the newly developed ISSC-MAP criteria apply to this trade," said Josef Brinckman, vice-president of Traditional Medicinals. "Sustainable supplies will mean long-term benefits for the local people who rely on the bearberry trade for supplementary income."

"I welcome the launch of this new standard, which presents an important step in ensuring the sustainable use of natural pharmaceutical products," said Professor Drenckhahn, president of WWF-Germany. "We'd like to see other companies use the standard and see how it works in practice for their benefit."

Those attending the EXPO West trade fair March 9 - 11, 2007, were able to hear more about the ISSC-MAP standard from Dr. Danna J. Leaman, chair of the Medicinal Plant Specialist Group for the World

Conservation Union, and Josef Brinckmann, Traditional Medicinals.

Organizations and experts involved in the ISSC-MAP consultation included: the German Federal Agency for Nature Conservation (BfN), the IUCN SSC Medicinal Plant Specialist Group (MPSG), WWF-Germany, and TRAFFIC, plus industry associations, companies, certifiers and community-based NGOs.

TRAFFIC works to ensure that trade in wild plants and animals is not a threat to the conservation of nature. TRAFFIC is a joint program of WWF, the conservation organization and IUCN - The World Conservation Union.

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## Board members, officers change

Scott Milburn was re-elected president of the Minnesota Native Plant Society at the June 26 board meeting. Shirley Mah Kooyman was re-elected vice president; Ron Huber was re-elected treasurer. Sean Jergens was elected secretary.

Peter Dziuk, Russ Schaffenberg, and Linda Huhn joined the board at this meeting. Peter and Russ were elected earlier this year; Linda was appointed to complete Sandy McCartney's term.

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## Extension service has forestry website

The University of Minnesota Extension Service has created a new website, [Myminnesotawoods.org](http://Myminnesotawoods.org). The site includes information on the natural history of savannas, woodlands, and forests in Minnesota, as well as specific information about tree growth and forest health. It encourages forest stewardship for a variety of purposes, including renewable timber harvest, recreation, and restoration.

# Peter Dziuk joins board

*Peter Dziuk, a new MN NPS Board member, is one of our most creative members. One of his photos is on this page. Following is the biography he submitted to introduce himself to members.*

Rumor has it that  
Peter M. Dziuk started his career  
While in the fourth grade,  
Copping strawberry plants from  
Little Old Ladies' gardens.

Since that time,  
He has been known to grow  
All sorts of things,  
Some, possibly illegal,  
But he'll never fess up.

Though of dubious academic  
Intent and skill (attitude, attitude,  
attitude),  
He did manage to get degrees in  
Horticulture (early), biology and  
secondary education (later).  
However, teaching high school  
students  
Was not in his future.

In the late 70s he worked at  
The "new" zoo out in Apple Valley,  
But then stumbled around the private  
sector,  
And more schooling, for some time.  
Then, by 1992, he stumbled back into  
State Government —  
Or at least the MDA version.

He coordinated the tree inspector  
program;  
He coordinated the gypsy moth  
program;  
He coordinated the invasive species  
program;  
He coordinated the cooperative  
agricultural pest survey program.  
For now, he is a nursery inspector.

While he may have a habit  
Of saying too much,  
Above and beyond all,  
He is passionate about  
Native wildflowers!



*Chelone glabra*, photo by Peter Dziuk



*Chelone glabra* in profile,  
photo by Scott Milburn.

## Field trips

Summer field trips are a popular membership benefit. The Aug. 9 trip to St. Croix Savanna Scientific and Natural Area has been filled. Hannah Texlar, Minnesota DNR regional plant ecologist, will lead this trip. Future trips will be announced on the website ([www.mnnps.org](http://www.mnnps.org)) and on the blog ([www.mnnps.blogspot.com](http://www.mnnps.blogspot.com)).

Recent completed field trips include Whitewater Wildlife Management Area May 12; Prairie Coteau June 16 and 17; Hill River State Forest June 30; a western prairie fringed orchid survey the weekend of July 7; and Pioneer Park fen in Blaine July 14.

# Plant Lore

by Thor Kommedahl  
**What is turtlehead?**

Turtlehead is *Chelone glabra*, a native herb in the figwort family.

**What do its names mean?**

*Chelone* comes from the Greek *kelone*, a tortoise, referring to the turtle-head shape of the upper part of the flower. In Greek mythology, Chelone was a nymph who, because she refused to attend the wedding of Zeus and Hera, was turned into a turtle. *Glabra* means smooth.

**What does the plant look like?**

Plants are usually two to three feet tall (some report up to six feet) from a creeping, perennial root. The stem is smooth and somewhat four-angled. Leaves are opposite without, or perhaps with short, petioles. The two-lipped flowers in a spike consist of four fertile stamens and one sterile stamen and five united (two upper and three lower), white petals. Seeds are flat and rounded, winged, and encased in a capsule.

**Where do turtleheads grow?**

Mainly in the eastern half of the state in swamps, wet meadows, marshes, or along streams. They flower from July to September.

**Is this a "butterfly plant"?**

Well, yes, at least for the Baltimore butterfly (*Euphydryas phaeton*), whose larvae feed exclusively on turtlehead leaves, e.g. the Minnesota River Valley is habitat to both plant and butterfly. Fall butterflies also feed on plant nectar.

**Has it any medicinal uses?**

American Indians valued it as a laxative and purgative. They also made a tea from flowers to treat worms and as a contraceptive. Early physicians prescribed it as an ointment for fevers, piles, liver problems, etc. It contains a bitter resin.

**Is it used horticulturally?**

It is sometimes planted in gardens, but it requires light shade and consistently moist soil. Plants can be propagated from seed and by dividing roots.

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**Summer 2007**

